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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,330	01/22/2004	Tsuyoshi Nakamura	Q79512	2694

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EXAMINER

GUADALUPE, YARITZA

ART UNIT PAPER NUMBER

2859

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/761,330

Applicant(s)

NAKAMURA ET AL.

Examiner

Yaritza Guadalupe McCall

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005 and 05 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

In response to Amendments filed September 1, 2005 and October 5, 2005

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites a positioning apparatus wherein the guide element provided on the base in the area where the drive element is provided is larger than the guide element provided in the opposite area. This limitation is indefinite since it is not clear what is meant by "larger". As best understood from the Specification and the Figures, all of the guide elements provided in the apparatus appear to be of a similar configuration, therefore, it is not clear what is meant by this limitation.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 6, 9 and 10 – 13 are rejected under 35 U.S.C. 102 (b) as being anticipated by Yamaguchi et al. (US 5,701,677).

With respect to claim 1, Yamaguchi et al. discloses a positioning apparatus comprising a base (1); guide elements (5) provided on non-adjacent ends of each base (See Figure 1); a drive element (10) provided at one of the non-adjacent ends of the base (1), wherein the drive element moves the slider (7) along the guide elements.

In regards to the stiffness limitation in claim 1, Yamaguchi et al. discloses an apparatus wherein due to the configuration of the guide elements and the drive element, the stiffness of the slider, in a yawing direction of the slider, provided in the area where the drive element (10) is provided, is made higher than that in an area opposite the area where the drive element is provided.

With regards to claim 4, Yamaguchi et al. further discloses an apparatus wherein the drive element (10) is formed from a ball screw , and the guide elements (5) are formed from a linear guide.

Regarding claim 9, Yamaguchi et al. also teaches a positioning apparatus wherein the guide elements (5) are disposed in parallel to the ends of the base on which they are provided.

In regards to claim 10, Yamaguchi et al. discloses a positioning apparatus wherein the drive element (10) is not provided at the other one of the non-adjacent ends of the base.

With respect to claim 11, Yamaguchi et al. shows a positioning apparatus wherein the drive element (10) and the guide elements (5) are parallel to one another.

Regarding claim 12, Yamaguchi et al. further teaches a positioning apparatus wherein said base (1) is fixed and said slider (7) moves relative to the base.

A different interpretation to the Yamaguchi et al. reference, based on Figure 15, follows :

With respect to claim 1, Yamaguchi et al. discloses a positioning apparatus comprising a base (100); guide elements (114a, 114b) provided on non-adjacent ends of each base (See Figure 15); a drive element (112a,) provided at one of the non-adjacent ends of the base (100), wherein the drive element moves the slider (142) along the guide elements.

In regards to the stiffness limitation in claim 1, Yamaguchi et al. discloses an apparatus wherein due to the configuration of the guide elements and the drive element, the stiffness of the slider, in a yawing direction of the slider, provided in the area where the drive element is provided, is made higher than that in an area opposite the area where the drive element is provided.

Regarding claim 6, Yamaguchi et al. discloses an X - Y axis stage system comprising a base (100), a stage (142); guide elements (114a, 114b) provided on both ends of the stage; a drive elements (112a, 112b) provided at the non-adjacent ends of the base, wherein the drive element moves the slider along the guide elements, and wherein stiffness, in a yawing direction of the stage, due to the configuration of the guide elements in an area where the drive elements are provided, is made higher than that in an area opposite the area where the drive element is provided.

Regarding claim 13, Yamaguchi et al. further teaches a positioning apparatus wherein said base (100) is fixed and said slider (142) moves relative to the base.

3. Claims 1 – 11 and 15 are rejected under 35 U.S.C. 102 (b) as being anticipated by Yanagisawa (US 6,327,929).

With respect to claim 1, Yanagisawa discloses a two dimensional drive system and apparatus comprising a base (10); guide elements (12, 14, 17, 19) provided on non-adjacent ends of the base (when moved to be aligned on non-adjacent ends of the base and since each slider having these guide elements is on the base); a drive element (22, 24) provided on one of the non adjacent ends of the base (10) when moved to be aligned on non adjacent ends and since each slider having a drive element is provided on the base, wherein the drive element moves the slider along the guide elements. Yanagisawa discloses an apparatus having drive elements (22, 24) provided with a support structure where a set of two guide elements (17, 19) are disposed on opposite sides of each drive element (See Figure 1).

In regards to the stiffness limitation in claim 1, Yanagisawa discloses an apparatus wherein the X-axis stage (16) could be positioned at one end of the base stage (42) and wherein the Y-axis stage (18) could also be positioned at one end of the base stage (42) by actuation of motors (26, 28), therefore, the stiffness of the guide elements (17, 19), in a yawing direction of the stage, provided in the area where the drive elements (22, 24) are provided, is made higher than that of the guide elements (12, 14) provided in an area opposite the area where the drive elements (22, 24) are provided.

In regards to claim 2, Yanagisawa also discloses a device having two guide elements (12, 14, 30, 31) provided on the base in the area where the drive element is provided (on each side of drive element).

Regarding claim 3, Yanagisawa teaches a plurality of guide elements (12, 14, 30, 31) provided in the area of the base where the drive element (22, 24) is provided and arranged substantially symmetrically with respect to the drive elements and mutually proximate to each other.

With regards to claim 4, Yanagisawa further discloses an apparatus wherein the drive elements (22, 24) are formed from a ball screw (See Column 7, lines 16 – 23), and the guide elements are formed from a linear guide (See Figure 1 and column 6, line 42).

In regards to claim 5, Yanagisawa teaches the stage having an opening section (11).

Regarding claim 6, Yanagisawa discloses an X - Y axis stage system comprising a stage (42); guide elements (12, 14) provided on both ends of the stage; drive elements (22, 24) which are provided at one of both ends of the stage and move the stage along the guide elements in an X – axis and a Y-axis, and wherein stiffness, in a yawing direction of the stage, of the guide elements (12, 14) provided in the area where the drive elements (22, 24) are provided is made higher than that of the guide elements provided in an area opposite the area where the drive element is provided.

With regards to claim 7, Yanagisawa also teaches an X – Y axis stage comprising second guide elements provided on second non-adjacent ends of the base (See Figure 1), a second slider (16, 18) which is guided by the second guide elements; and a second drive element (22,

24) provided at one of the second non-adjacent ends of the base and which moves the second slider along the second guide elements. In regards to the stiffness limitation in claim 7, Yanagisawa discloses an apparatus wherein the X-axis stage (16) could be positioned at one end of the base stage (42) and wherein the Y-axis stage (18) could also be positioned at one end of the base stage (42) by actuation of motors (26, 28), therefore, the stiffness of the guide elements (17, 19), in a yawing direction of the stage, provided in the area where the drive elements (22, 24) are provided, is made higher than that of the guide elements (12, 14) provided in an area opposite the area where the drive elements (22, 24) are provided.

In regards to claim 8, Yanagisawa teaches an X - Y stage wherein said second slider is arranged so as to move in a direction perpendicular to that in which said first slider is arranged to move (See Figure 1).

Regarding claim 9, Yanagisawa also teaches positioning apparatus wherein the guide elements are disposed in parallel to the ends of the base on which they are provided.

In regards to claim 10, Yanagisawa discloses a positioning apparatus wherein the drive element is not provided at the other one of the non-adjacent ends of the base, when the X base and the Y base are positioned on ends of the base (10).

With respect to claim 11, Yanagisawa shows a positioning apparatus wherein the drive element and the guide elements are parallel to one another.

In regards to claim 15, Yanagisawa teaches a positioning apparatus wherein each of the guide elements (12, 14, 17, 19) further comprises two linear guide bearings (32, 34) disposed on said slider, and further wherein an interval between the linear guide bearings provided in the area on which the drive element is provided, is greater than that between the linear guide bearings provided in the area opposite the area where the drive element is provided, so as to achieve said difference in stiffness.

Response to Arguments

4. Applicant's arguments with respect to claims 1 - 15 have been considered but are moot in view of the new ground(s) of rejection.

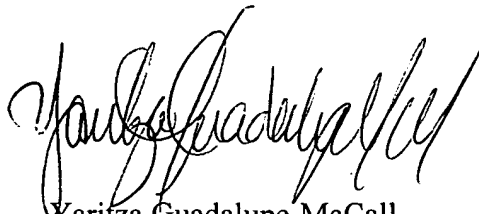
The present Office Action is made with all the suggested amendments, filed September 1 and October 5, 2005, being fully considered. However, it is noted, that applicant's supplemental amendment did not include the alternative language discussed and agreed upon for claim 1 in the personal Interview requested by Applicant and conducted on September 27, 2005.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaritza Guadalupe-McCall whose telephone number is (571)272-2244. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Yaritza Guadalupe-McCall
Patent Examiner
Art Unit 2859

YGM
October 14, 2005